Introduction

The BRET assay uses the interaction of bioluminescent and fluorescent proteins to create a signal that can be measured using a plate reader. This technology is based on the expression of two proteins: one that emits light (bioluminescent) and another that fluoresces (fluorescent). The two proteins are often engineered to interact, leading to a change in the signal detected by the plate reader.

BRET1-assay using the FDSS/μCell imaging plate reader:

monitoring agonist-induced β-arrestin recruitment to a G protein-coupled receptor (GPCR).

2. Principle

BRET assays are used to study the interaction between two proteins: one that emits light (bioluminescent) and another that fluoresces (fluorescent). The two proteins are often engineered to interact, leading to a change in the signal detected by the plate reader.

3. Experimental procedures

The proteins used in the BRET assays are expressed in cells, and the signal is detected using a plate reader. The signals are then analyzed to determine the interaction between the two proteins.

4. Results

Fig 2: agonist-induced β-arrestin recruitment to D2s-R. Results are expressed as the difference in BRET signal in the presence or absence of the agonist. Data represent the mean ± s.e.m. of at least 3 independent experiments.

5. Optimisation experiments

Fig 3: agonist-induced β-arrestin recruitment to D2s-R. Results are expressed as the difference in BRET signal in the presence or absence of the agonist. Data represent the mean ± s.e.m. of at least 3 independent experiments.

6. Pharmacology

Fig 4: agonist-induced β-arrestin recruitment to D2s-R. Results are expressed as the difference in BRET signal in the presence or absence of the agonist. Data represent the mean ± s.e.m. of at least 3 independent experiments.

7. Conclusion

The BRET assay is a powerful tool for studying the interaction between two proteins. It allows for the study of agonist-induced β-arrestin recruitment to D2s-R, which is important for understanding G protein-coupled receptor (GPCR) signaling.

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References

[1] Information on specific proteins and their interactions.
[4] Literature on G protein-coupled receptors (GPCRs).

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